

CLAIMS (ARTICLE 34)

1. Gypsum board with reduced sagging, obtained by hydraulic setting and hardening of a gypsum-based composition comprising, in percentages by weight with respect to the weight of the calcium sulphate semihydrate in the composition, from 0.003% to 0.45% of tartaric acid or tartaric acid salt(s) and from 0.05% to 0.95% of boric acid or boric acid salt(s).
2. Gypsum board according to claim 1, comprising, in percentages by weight with respect to the weight of the calcium sulphate semihydrate in the composition, from 0.005% to 0.05% of tartaric acid or tartaric acid salt(s) and from 0.2% to 0.8% of boric acid or boric acid salt(s).
3. Gypsum board according to claim 1 or 2, comprising, in percentages by weight with respect to the weight of the calcium sulphate semihydrate in the composition, from 0.02% to 0.03% of tartaric acid or tartaric acid salt(s) and from 0.4% to 0.7% of boric acid or boric acid salt(s).
4. Gypsum board according to any one of claims 1 to 3, characterized in that the tartaric acid comprises a mixture of L and D forms.
5. Gypsum board according to any one of claims 1 to 4, characterized in that the tartaric acid comprises a mixture of L, D and meso forms.
6. Gypsum board according to any one of claims 1 to 5, also comprising a foaming agent.
7. Gypsum board according to claim 6, characterized in that the foaming agent is an alkali or alkaline-earth metal alkylsulphate, preferably an alkylsulphate of

formula  $\text{H}(\text{CH}_2)_n\text{OSO}_3^-\text{M}^+$ , in which  $n$  is from 6 to 16 and the average number of carbon atoms in the alkylsulphate composition  $n_m$  is comprised between 10 and 11, and  $\text{M}$  is a monovalent cation.

5

8. Gypsum board according to any one of claims 1 to 7, also comprising an alkali or alkaline-earth metal phosphate.

10

9. Gypsum board according to claim 8, characterized in that it contains at the most 0.5% and preferably less than 0.2% by weight, of said alkali or alkaline-earth metal phosphate with respect to the weight of the calcium sulphate semihydrate.

15

10. Gypsum board according to claim 8 or claim 9, characterized in that said alkali metal or alkaline-earth metal phosphate is sodium trimetaphosphate.

20

11. Process for manufacturing a gypsum board with reduced sagging according to any one of claims 1 to 10, in which tartaric acid, or one or more of its salts, and boric acid, or one or more of its salts, is introduced into the gypsum-based composition, before the hydraulic setting and hardening of the latter.

25

12. Process for manufacturing a gypsum board with reduced sagging according to any one of claims 1 to 10, in which tartaric acid, or one or more of its salts, and boric acid, or one or more of its salts, is introduced into the gypsum-based composition, after the hydraulic hardening of the latter, by soaking.

30

13. Process according to claim 11 or 12, comprising the introduction into the gypsum-based composition of tartaric acid or tartaric acid salt(s), in a quantity greater than 0.001% by weight with respect to the

35

weight of the calcium sulphate semihydrate contained in the gypsum-based composition.

- 5 14. Process according to any one of claims 11 to 13, characterized in that, in percentages by weight with respect to the weight of the calcium sulphate semihydrate in the composition, from 0.003% to 0.45% and preferably from 0.005% to 0.05% of tartaric acid or tartaric acid salt(s) are introduced into the gypsum-based composition.
- 10 15. Process according to any one of claims 11 to 14, characterized in that, in percentages by weight with respect to the weight of the calcium sulphate semihydrate in the composition, up to 0.95% and preferably from 0.2% to 0.8% of boric acid or boric acid salt(s) are also introduced into the gypsum-based composition.
- 15 16. Process according to any one of claims 11 to 15, characterized in that the tartaric acid comprises a mixture of L and D forms.
- 20 17. Process according to any one of claims 11 to 15, characterized in that the tartaric acid comprises a mixture of L, D and meso forms.
- 25 18. Process according to any one of claims 11 to 17, characterized in that at least one foaming agent is also introduced into the gypsum-based composition.
- 30 19. Process according to claim 18, characterized in that the foaming agent comprises an alkali or alkaline-earth metal alkylsulphate, preferably an alkylsulphate of formula  $H(CH_2)_nOSO_3^-M^+$ , in which n is from 6 to 16 and the average number of carbon atoms in the alkylsulphate composition,  $n_m$  is comprised between 10 and 11, and M is a monovalent cation.
- 35

20. Process according to any one of claims 11 to 19,  
characterized in that at least one alkali or alkaline-  
earth metal phosphate is also introduced into the  
gypsum-based composition.

5

21. Process according to claim 20, characterized in that  
said alkali or alkaline-earth metal phosphate is  
introduced in a quantity of 0.5% maximum, and  
preferably less than 0.2% by weight, with respect to  
the weight of the calcium sulphate semihydrate.

10

22. Process according to claim 20 or claim 11,  
characterized in that the alkali or alkaline-earth  
metal phosphate is sodium trimetaphosphate.

15

23. Use of tartaric acid or tartaric acid salt(s) for the  
reduction of the sagging of a gypsum-based element.

20